ADOPTED BY THE
MAYOR AND COUNCIL

_____

ORDINANCE NO. 10178

RELATING TO BUILDING, ELECTRICITY, PLUMBING AND MECHANICAL CODE, AMENDING THE TUCSON CODE CHAPTER 6, BUILDINGS, ELECTRICITY, PLUMBING AND MECHANICAL CODE, ARTICLE III BUILDINGS, DIVISION 1, BUILDING CODE, SECTION 6-40 ENERGY CONSERVATION CODE, BY ADOPTING THE INTERNATIONAL ENERGY CONSERVATION CODE, 2003 EDITION WITH LOCAL MODIFICATIONS; ESTABLISHING PENALTIES; ESTABLISHING AN EFFECTIVE DATE; AND DECLARING AN EMERGENCY.

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF TUCSON, ARIZONA, AS FOLLOWS:

SECTION 1. The Tucson Code, Chapter 6, Buildings, Electricity, Plumbing, and Mechanical Code, Article III Buildings, Division 1 Building Code, Section 6-40 Energy Conservation Code adopted is hereby amended to read as follows:

Sec. 6-40. *Energy Conservation Code adopted.*

The document entitled the "International Energy Conservation Code 2003 Edition" with modifications, a copy of which modifications are attached as Exhibit "A" to Ordinance No. 10178 and the Sustainable Energy Standard, a copy of which standard is attached as Exhibit "B" to Ordinance No. 10178 are hereby adopted.

SECTION 2. The various City officers and employees are authorized and directed to perform all acts necessary or desirable to give effect to this ordinance.

SECTION 3. If any provision of this ordinance, or the application thereof to any person or circumstance is invalid, the invalidity shall not affect other provisions or applications of this ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this ordinance are severable.

SECTION 4. *Penalties.*

(a) Any person violating any of the provisions of this ordinance shall be deemed guilty of a civil infraction and subject to punishment as follows:

(1) A person found responsible for a civil infraction for the first time shall be fined not less than one hundred dollars ($100.00) nor more than twenty-five hundred dollars ($2,500.00) per civil infraction. A person found responsible for the same civil infraction for a second time shall be fined not less than two hundred dollars ($200.00) nor more than twenty-five hundred dollars ($2,500.00) per civil infraction. A person found responsible for the same civil infraction for a third or subsequent time shall be fined not less than three hundred dollars ($300.00) nor more than twenty-five hundred dollars ($2,500.00) per civil infraction. The imposition of a fine for civil infractions shall not be suspended.

(2) The magistrate, special magistrate or limited special magistrate shall, after a finding of responsibility, order abatement of the civil infraction. An abatement order shall be effective for one (1) year unless stayed on appeal. If stayed on appeal the order shall be effective for one (1) year

from the end of the appeal if the finding of responsible and sentence is upheld.

(3) The magistrate, special magistrate or limited special magistrate shall warn a violator that additional fines will be imposed for failure to abate a violation and criminal charges may be brought by the city attorney for failure to obey an order to abate a violation.

(b) Failure of a defendant to comply with any order contained in a judgment for a civil infraction shall result in an additional fine of not less than one hundred dollars ($100.00) nor more than twenty-five hundred dollars ($2,500.00) for each day the defendant fails to comply. A defendant's second failure to comply with any order contained in a judgment for a civil infraction shall result in an additional fine of not less than two hundred dollars ($200.00) nor more than twenty-five hundred dollars ($2,500.00) for each day after the second determination of the defendant's failure to comply; a defendant's third and subsequent failures to comply with any order contained in a judgment for a civil infraction shall result in an additional fine of not less than three hundred dollars ($300.00) nor more than twenty-five hundred dollars ($2,500.00) for each day after the third or subsequent determination of the defendant's failure to comply; provided, however, that the total fines imposed by this subsection and subsection (a) shall not exceed twenty-five hundred dollars ($2,500.00) per civil infraction.

SECTION 5. Sections 1 and 4 of this ordinance shall be effective from and after October 1, 2005.

SECTION 6. WHEREAS, it is necessary for the preservation of the peace, health and safety of the City of Tucson that this ordinance become immediately effective, an emergency is hereby declared to exist, and this ordinance shall be effective immediately upon its passage and adoption.

PASSED, ADOPTED AND APPROVED by the Mayor and Council of the City of Tucson, Arizona, _____.

_____
MAYOR

ATTEST:

_____
CITY CLERK

APPROVED AS TO FORM:

_____
CITY ATTORNEY

FWK

FWK:hm
6/20/05 9:30 AM

REVIEWED BY:

_____
CITY MANAGER

Adopt the 2003 International Energy Conservation Code and ASHRAE 90.1 2001 Edition with the following amendments:

IBC Section 101.4.7 Energy. Add, 2003 Edition to the IECC as amended by the City of Tucson and Pima County.

IBC SECTION 1301 - GENERAL

1301.1.1 Model Energy Code Adopted. Change the first sentence to read:

".... with the requirements of the *International Energy Conservation Code* 2003, edition."

IRC SECTION N1101- GENERAL

1301.1.1 Model Energy Code Adopted. Change the first sentence to read:

".... Or with the requirements of the *International Energy Conservation Code* 2003, edition."

IECC CHAPTER 1 - ADMINISTRATION

Section 101.1 Title. Delete "of", brackets and "Name of Jurisdiction".

SECTION 101.4 Compliance. Add new sentence to read: "Compliance with the Sustainable Energy Standard shall be deemed to comply with this code."

IECC CHAPTER 2 - DEFINITIONS

SECTION 201.2 General Definitions. Positive Cooling Supply. Insert between "cooling" and "deliberately" the phrase "including evaporative cooling systems".

IECC CHAPTER 3 – DESIGN CONDITIONS

SECTION 302.1. Exterior Design Conditions. Revise by including the following two tables, and delete the Footnotes and References:

Table 302.1
Exterior Design Conditions

Pima County Arizona			
CONDITION		**Under 4,000 feet elevation [1]**	**4,000 feet elevation & above [2]**
Winter	Design Dry Bulb Temp	32°F	4°F
Summer	Design Dry Bulb Temp	104°F	90°F
	Design Wet Bulb Temp	66°F	61°F
Degree days heating		2100	7000
Degree days cooling		2814	

1. Use CLIMATE ZONE 4B for Chapter 8. For Chapters 4 and 5 use CLIMATE ZONE 5.
2. Use CLIMATE ZONE 14A for Chapter 8. For Chapters 4 and 5 use CLIMATE ZONE 15.

IECC CHAPTER 4 – RESIDENTIAL BUILDING DESIGN

SECTION 402.5.4 Operational Characteristics: Add a sentence to read:

"The occupied mode shall be not less than 10 hours in a 24-hour period." or above 4,000 feet shall use climatic zone 15."

IECC CHAPTER 8 – DESIGN BY ACCEPTABLE PRACTICE FOR COMMERCIAL BUILDINGS

SECTION 803.2.1.1 Equipment & system sizing. Add the following exception:

Exception: Over-sizing of equipment shall be justified by a note added to the plans by a registered professional.

SECTION 803.2.6 Delete 65.000 and insert 90,000.

SECTION 803.3.3.5 Delete 65.000 from the first paragraph and insert 90,000.

SECTION 805.2.2.2.2 Exception - Add "or other buildings required to operate 24 hours" to the end of the sentence.

IECC CHAPTER 9 – CLIMATE MAPS

Delete in its entirety.

ASHRAE 90.1/2001 CHAPTER 9 - LIGHTING

Replace 9.2.1.3 with the following:

9.2.1.3 Exterior Lighting Control. Lighting for all exterior applications not exempted in 9.1 shall have automatic controls capable of turning off exterior lighting when sufficient daylight is available or when the lighting is not required during nighttime hours. Lighting not designated for dusk-to-dawn operation shall be controlled by an astronomical time switch. Lighting designated for dusk-to-dawn operation shall be controlled by an astronomical time switch or photosensor. Astronomical time switches shall be capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.

Exception to 9.2.1.3: Lighting for covered vehicle entrances or exits from buildings or parking structures where required for safety, security, or eye adaptation.

Replace TABLE 9.3.1.1 with the following:

TABLE 9.3.1.1
Lighting Power Densities Using the Building Area Method

Building Area Type [a]	Lighting Power Density (W/ft^2)
Automotive Facility	0.9
Convention Center	1.2
Court House	1.2
Dining: Bar/Lounge/Leisure	1.3
Dining: Cafeteria/Fast Food	1.4
Dining: Family	1.6
Dormitory	1.0
Exercise Center	1.0
Gymnasium	1.1
Healthcare-Clinic	1.0
Hospital	1.2
Hotel	1.0
Library	1.3
Manufacturing Facility	1.3
Motel	1.0
Motion Picture Theatre	1.2
Multi-Family	0.7
Museum	1.1
Office	1.0
Parking Garage	0.3
Penitentiary	1.0
Performing Arts Theatre	1.6
Police/Fire Station	1.0
Post Office	1.1
Religious Building	1.3
Retail	1.5
School/University	1.2
Sports Arena	1.1
Town Hall	1.1
Transportation	1.0
Warehouse	0.8
Workshop	1.4

a. In cases where both general building area type and a specific building area type are listed, the specific building area type shall apply.

Replace TABLE 9.3.1.2 with the following:

Table 9.3.1.2
Lighting Power Densities Using the Space-by-Space Method

Building Specific Space Types	
Gymnasium/ Exercise Center	
Playing Area	1.4
Exercise Area	0.9
Courthouse/ Police Station/ Jail	
Courtroom	1.9
Confinement Cells	0.9
Judges Chambers	1.3
Fire Stations	
Fire Station Engine room	0.8
Sleeping Quarters	0.3
Post Office - Sorting Area	1.2
Convention Center - Exhibit Space	1.3
Library	
Card File & Cataloguing	1.1
Stacks	1.7
Reading Area	1.2
Hospital	
Emergency	2.7
Recovery	0.8
Nurse station	1.0
Exam/Treatment	1.5
Pharmacy	1.2
Patient Room	0.7
Operating Room	2.2
Nursery	0.6
Medical Supply	1.4
Physical Therapy	0.9
Radiology	0.4
Laundry-Washing	0.6
Automotive - Service/Repair	0.7
Manufacturing	
Low Bay (<25' Floor to Ceiling Ht)	1.2
High Bay (>25' Floor to Ceiling Ht)	1.7
Detailed Manufacturing	2.1
Equipment room	1.2
Control room	0.5
Hotel Motel Guest Rooms	1.1
Dormitory- Living Quarters	1.1
Museum	
General Exhibition	1.0
Restoration	1.7
Bank/Office - Banking Activity Area	1.5
Religious Buildings	
Worship-pulpit, choir	2.4
Fellowship Hall	0.9

Retail [accent lighting sec 9.3.1.2.1 (c)]	
Sales area	1.7
Mall Concourse	1.7
Sports Arena	
Ring Sports Area	2.7
Court Sports Area	2.3
Indoor Playing Field Area	1.4
Warehouse	
Fine Material Storage	1.4
Medium/Bulky Material Storage	0.9
Parking Garage - Garage Area	0.2
Transportation	
Airport - Concourse	0.6
Air/Train/Bus - Baggage Area	1.0

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Table 9.3.1.2 (cont'd)
Lighting Power Densities Using the Space-by-Space Method

Common Space Type[a]	in LPD (W/ft^2)		
Office-enclosed	1.1	Lounge/Recreation	1.2
Office-open plan	1.1	For Hospital	0.8
Conference! Meeting/ Multipurpose	1.3	Dining area	0.9
Classroom/ Lecture/ Training	1.4	For Penitentiary	1.3
For Penitentiary	1.3	For Hotel	1.3
Lobby	1.3	For Motel	1.2
For Hotel	1.1	For Bar Lounge/Leisure Dining	1.4
For Performing Arts Theater	3.3	For Family Dining	2.1
For Motion Picture Theatre	1.1	Food Preparation	1.2
Audience/Seating Area	0.9	Laboratory	1.4
For Gymnasium	0.4	Restrooms	0.9
For Exercise Center	0.3	Dressing/Locker/Fitting Room	0.6
For Convention Center	0.7	Corridor/Transition	0.5
For Penitentiary	0.7	For Hospital	1.0
For Religious Buildings	1.7	For Manufacturing Facility	0.5
For Sports Arena	0.4	Stairs active	0.6
For Performing Arts Theatre	2.6	Active Storage	0.8
For Motion Picture theatre	1.2	For Hospital	0.9
For Transportation	0.5	Inactive storage	0.3
Atrium - first three floors	0.6	For Museum	0.8
Atrium - each additional floor	0.2	Electrical / mechanical	1.5
		Workshop	1.9

a In cases where both general building area type and a specific building area type are listed, the specific building area type shall apply.

Replace 9.3.2 and TABLE 9.3.2 with the following:

9.3.2 Exterior Building Lighting Power. The total *exterior lighting power allowance* for all exterior building applications is the sum of the individual lighting power densities permitted In Table 9.3.2 for these applications plus an additional unrestricted allowance of 5% of that sum. Tradeoffs are allowed among all exterior lighting applications except for building facades. Exterior lighting for all applications (except those included in the exceptions to 9.1 and 9.3.2) shall comply with the requirements of 9.2.6.

Exceptions to 9.3.2: Lighting used for the following exterior applications is exempt when equipped with a *control device* independent of the control of the non-exempt lighting:
(a) specialized signal, directional, and marker lighting associated with transportation;
(b) advertising signage or directional signage;
(c) integral to *equipment* or instrumentation and is installed by its *manufacturer*
(d) theatrical purposes, including performance, stage, film and video production;
(e) athletic playing areas;
(f) temporary lighting;
(g) industrial production, material handling, transportation sites, and associated storage areas;
(h) theme elements in theme/amusement parks; and used to highlight features of public monuments and registered *historic* landmark structures or *buildings.*

TABLE 9.3.2
Lighting Power Densities for Building Exteriors

Application	Lighting Power Density
Tradable Surfaces (Trade-offs are permitted between different exterior lighting systems on the site, provided the total exterior connected lighting power does not exceed the total exterior lighting power allowance.)	
Uncovered Parking Areas	
Parking Lots & Drives	0.15 W/ft^2
Building Grounds	
Walkways <10 ft wide, plaza areas & special feature areas	1.0 W/LF
Walkways ≥10 ft	0.2 W/ft^2
Stairways	1.0 W/ft^2
Building Entrances & Exits	
Main entries	30 W/LF of door width
Other doors	20 W/LF of door width
Canopies & Overhangs	
Canopies (freestanding & attached)	1.25 W/ft^2
Overhangs	1.25 W/ft^2
Outdoor Sales	
Open areas including vehicle sales lots	0.5 W/ft^2
Street frontage for vehicle sales lots in addition to "open area" allowance	20 W/LF
Non-Tradable Surfaces (Lighting Power Density calculations for the following applications can only be used for the specific application and cannot be traded between surfaces or with other exterior Lighting.)	
Building Facades	0.2 W/ft² for each illuminated wall or surface or 5.0 Watts/linear foot for each illuminated wall or surface length
Automated Teller Machines & Depositories	270 watts per location plus 90 watts per additional ATM per location
Entrances & gatehouse inspection stations at guarded facilities	1.25 W/ft² (covered areas may not be counted in Canopies and Overhangs)
Uncovered loading areas for law enforcement, fire, ambulance & other emergency service vehicles	0.5 W/ ft^2 (Covered areas are counted in Canopies and Overhangs)
Drive-up windows at fast food restaurants	400 watts per drive-through
Parking near 24-hour Retail Entrances	800 watts per main entry

SUSTAINABLE ENERGY STANDARD
For The International Energy Conservation Code, 2003 Edition
Regionally specific for the Tucson Metropolitan Area

The following modifications to the International Energy Conservation Code, 2003 Edition are deemed to be a sustainable energy standard:

(Editorial Note: This Energy Standard has been updated from the original Sustainable Energy Standard, CABO Model Energy Code, 1995 Edition, dated 4-22-98. While this standard may be beneficial for many regions it is specific to the Tucson Metropolitan area. This standard is not to conflict with the previous Sustainable Energy Standard or amendment to locally adopted codes.)

Chapter 1 - Administration And Enforcement

Section 101.1 Title. Delete "of", brackets and "Name of Jurisdiction".

Section 101.2 Scope. Add a paragraph to read:

The calculated target annual energy consumption of the building lighting, mechanical system and domestic hot water heating shall be less than 50% of the energy required by the ANSI/ASHRAE/IESNA Standard 90.1-2001 without amendments for the purpose of calculating the minimum base case, otherwise buildings must also meet the *adopted International Energy Code of this jurisdiction. In addition, the minimum displacement goal of energy by solar devices is prescribed as a function of residential bedrooms at 550 kWh/br/yr. Displacement for other structures is prescribed in tables relating displacement goals as a function of the buildings use and occupancy. Buildings that show proof of LEED registration at the silver level with a LEED Accredited Professional as part of the design team shall be deemed compliant with this standard. New buildings must achieve a minimum of 7 points from LEED credits EA1 (Optimize Energy Performance) and EA2 (Renewable Energy). One of the points must be from LEED credit EA2 by utilizing solar energy. Existing buildings must achieve 9 points from LEED credits EA1 and EA2. One of the points must be from LEED credit EA2 by utilizing solar energy. Commercial buildings shall demonstrate that 5% of the total annual building lighting, mechanical system and domestic hot water heating energy consumption is offset by the use of solar energy.*

***Exception**: For each 5% of building lighting, mechanical system and domestic hot water heating energy budget that is offset with co-generation the solar requirement may be decreased by 1% to a minimum of 1% solar energy utilization.*

Section 102.4 Delete after "of" and add: *, and there shall be a verification of proper installation of insulation before drywall installation, and the completion of the "Insulation Installation Warranty" and signature by a representative of the developer and/or builder.*

Section 102.6 Equipment. Add a new subsection to read:

102.6.1 *Residential buildings constructed under the provisions of this standard shall be permitted to use refrigerated air conditioning systems selected under the guidelines of the Air Conditioning Contractors of America (ACCA) Manual J Procedures, Specifically Sections 7-27, 7-28 and 7-29 at outside conditions of 105 degrees F and inside conditions of 75 degrees F. Other provisions of this standard notwithstanding, air conditioning equipment shall have a minimum SEER of 12.5.*

102.6.2 Evaporative cooling. *Evaporative cooling may be used for cooling or to reduce air conditioning requirements but may not be used as the method of compliance to this standard except for commercial buildings that use evaporative cooling as an economizer cycle on a refrigeration or air conditioning application. Duct leakage through the evaporative device shall be minimized during air conditioning and heating modes of operation.*

102.6.3 Water Heating. *The following service water heating systems are the only methods acceptable:*

a. Solar water heaters.
b. Instant gas or electric water heaters.
c. Heat pump electric water heaters.
d. Heat recovery water heaters from air conditioning or other sources.
e. Gas water heaters exceeding 80% efficiency.
f. Passive Solar with in-collector storage (ICS), thermal siphon and alike shall be installed with no more than a total of 20 linear feet of piping between the solar system and the storage tank.

Exception: *Other methods acceptable to the authority having jurisdiction showing 50% reduction of water heating energy consumption.*

Water heating systems that serve only hand sinks and/or a single mop sink may use a water heater with up to 20 gallons of storage.

Section 104.1 General: Add a sentence at the end of the paragraph to read:

Plans and specifications shall show the method of utilizing "beneficial use of solar energy".

Add a new section to read:

SECTION 108 - WOOD-BURNING or GAS FIREPLACES and WOOD STOVES

108.1 Wood-burning stoves. *Wood-burning stoves shall be labeled to show compliance with the U. S. Environmental Protection Agency (EPA) Phase II standards for particulate emissions during operation.*

Catalytic stoves shall have an accessible, modular, replaceable catalyst element.

108.2 Fireplaces. *Wood-burning fireplaces and gas fireplaces shall produce useful heat and be provided with a means of supplying 100% of the combustion air for operation from the outside, and shall limit particulate emissions to less than 7.5 grams per hour. All fireplaces shall be provided with a tight fitting glass door and a positive means of circulating the heated air in the occupied space.*

108.3 Solar Backup. *A wood-burning stove or fireplace shall be considered as providing the required space heating energy only when installed as backup energy for a solar-thermal collection system.*

Chapter 2 - Definitions

Positive Cooling Supply. Amend as follows: insert the words *including evaporative cooling systems*, between "cooling" and "deliberately"

Add the following new definitions.

Civano. *A Tucson Solar Village, a model sustainable community; a vision of the future where resource consumption is reduced through more efficient technologies, use of solar energy and lifestyles which promote greater harmony and balance with the natural environment; a community in the spirit of the "Civano" period, a golden era of the Hohokam culture which balanced natural resources and human needs; incorporates and demonstrates strategies for achieving more sustainable development.*

Sustainable Development. *"Development that meets the needs of the present without compromising the ability of future generations to meet their needs." (UN World Commission on the Environment and Development)*

Beneficial Use of Solar Energy. *The following devices/methods may be used to demonstrate compliance:*

- *Solar space heating systems.*
- *Trombe wall or clear view collectors for space heating.*
- *Solar Photovoltaic systems.*
- *Solar thermal/electric power generating systems, including stand-alone and grid connected parabolic trough and dish Stirling.*
- *Solar day lighting systems specifically designed to capture and redirect visible solar energy while controlling infrared energy (conventional skylights are specifically excluded) for at least one half of the non-bedroom space.*
- *Passive building heating for the winter through the use of optimum window shade structures and orientation.*
- *Solar water systems for domestic water heating or space heating.*
- *Solar pool or spa water heating - see also 504.5.*

Power Density. *The total connected power load of all components of a building system, including all auxiliary components and circuitry, without regard to the timing, scheduling, or control of their operation, in w/ft^2 or Btu-h/ft^2.*

Site Energy. *Energy, other than recovered energy, utilized for any purpose on the site.*

Source energy consumption shall be determined by multiplying the site energy usage in kBtu-h per square foot by the following factors:

Site Energy	***Factor***
Electric	*3.10*
Gas	*1.11*
Wood	*1.00*
Solar (amount of displaced electric or gas)	*0.00*

Bedroom. *A room including clothes closets that may be used for sleeping purposes.*

Chapter 3 - Design Conditions

Table 302.1 Exterior design conditions: Revise the table as follows:

Table 302.1
Exterior Design Conditions

Winter	Design Dry Bulb Temp.	*32 F*
Summer	Design Dry Bulb Temp.	*104 F*
	Design Wet Bulb Temp.	*66 F*
Degree Days Heating		*7000*
Degree Days Cooling		*2814*
Climatic Zone		*14a*

Chapter 4 - Residential Building Design By Systems Analysis And Design Of Buildings Utilizing Renewable Energy Sources

Section 402.1 Analysis Procedure.

Add a sentence at the end of the first paragraph to read: *Domestic hot water energy use shall be calculated separately from glazing systems, heat storage, thermal envelope and space conditioning equipment and shall meet the energy reduction percentages of section 101.2.*

Section 402.5 Calculation Procedure Add:

402.5.4 *The occupied mode shall be not less than 10 hours in a 24-hour period.*

Section 402.6 Documentation. Add to the last sentence to read: .... Chapter 4 and that the derived proposed design is a minimum of *50* percent of the standard design.

Chapter 5 - Residential Building Design By Component Performance Approach

Section 502.1.2 Revise Title to "Masonry or Earthen Materials" and the note by placing a comma after "masonry", and adding "*earthen materials*," between "masonry" and "or".

Section 502.1.5 Change solar heat gain coefficient from 0.4 to 0.35.

Note: solar heat gain coefficient = shading coefficient X 0.87.

Table 502.2. Add the following values:

Table 502.2
HEATING AND COOLING CRITERIA

ELEMENT	MODE	TYPE A-1 BUILDINGS	TYPE A-2 BUILDINGS
		U_o	U_o
Walls	Heating or cooling	*0.11*	0.17
Roof/Ceiling	Heating or cooling	*0.026*	0.026
Floors over unheated spaces	Heating or cooling	*0.05*	0.05
Heated slab on grade	Heating	R-Value *8*	R-Value 8
Unheated slab on grade	Heating	R-Value *0*	R-Value 0
Basement wall	Heating or cooling	U-Factor *0.095*	U-Factor 0.095
Crawl space wall	Heating or cooling	U-Factor *0.06*	U-Factor 0.06

Delete all footnotes.

***Section 502.2.1.4 and 502.2.3.4 Slab-on-grade floors**: Delete in its entirety.*

Table 503.2 Change the values in the fourth column (Minimum Performance) from HSPF ~~6.8~~ and ~~6.6~~ to *7.0* and *7.0* respectively, change SEER values in the fourth column (Minimum Performance) from ~~10~~ and ~~9.7~~ to *12.5* and *12.5*, respectively

Change: **Section 502.3.3 Recessed lighting fixtures.**

502.3.3 Recessed lighting fixtures. When installed in the building envelope, recessed light fixtures shall be sealed to prevent air leakage into or from the conditioned space.

Section 503.3.3.1 Piping Insulation. Delete exceptions 2, and 3.

Section 503.3.3.4.2 add to end: *All low pressure ducts shall be leak tested in accordance with this standard. The tested rate of air leakage is not to exceed 3% of conditioned floor area in CFM at 25 pascals (0.1 inches WC) prior to drywall and air handling equipment installation. A representative of the developer and/or builder will perform a field inspection and leakage test of the ductwork before drywall installation. The field representative will certify successful completion of this test.*

Section 504.3 Add the following at the beginning of the paragraph:
All recreational swimming pools and spas shall utilize solar energy as the only water heating source. Medical and rehabilitation pools smaller than 3,000 gallons water capacity shall use solar energy as the primary water heating source, with a new energy source permitted as backup.

Section 504.4 Delete "conveniently", place a period after "automatically" and delete the rest of the sentence.

Add: **Section 505.3 Lighting fixture efficacy.**

505.3 Lighting fixture efficacy. All general purpose lighting fixtures in kitchen, laundry room, utility room, equipment room, and garage, and those that are required by other Codes at entries on the exterior of buildings shall be so constructed as to accept only lamps with efficacy greater than 40 lumens/watt.

Exception: Those fixtures designed for spot or flood type lamps and those fixtures controlled by a permanently installed dimmer.

Add: **Section 505.4 Exterior lighting fixture controls.**

505.4 Exterior lighting fixture controls. Exterior lighting fixtures shall be controlled by a time switch with astronomic adjustment or a photo sensor. A standard time switch may be incorporated with the photo sensor to turn the lights off at a desired time before dawn. All time switches shall incorporate a minimum 2 hour carry through of the program.

Add a new **section 506** to read:

Section 506. Energy Consumption - Other Than Electrical. *In multifamily dwellings , provisions shall be made to determine the energy consumed by each tenant by separately metering individual dwelling units or tenant spaces.*

Chapter 6 - Simplified Perscriptive Requirements ...

For this procedure use climate zone 15 (7,000 HDD) 602.2 (same as 502.1.5.)

Chapter 7 - Building Design For All Commercial Buildings

FOR THE PURPOSE OF CALCULATION THE ANSI/ASHRAE/IESNA STANDARD 90.1-2001 SHALL BE USED TO ESTABLISH THE BASELINE CASE WITHOUT ADMENDMENTS.

Chapter 8 - Design By Acceptable Practice For Commerical Buildings

Delete entire chapter.

Chapter 9 - Climate Maps

Delete entire chapter.